

Notice of Allowability

Application No.

09/930,361

Examiner

Matthew Landau

Applicant(s)

ANO, KAZUAKI

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed January 23, 2006.
2. ☒ The allowed claim(s) is/are 1-11 and 18-26.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Response to Amendment

The amendment filed January 23, 2006 has been entered and fully considered.

Allowable Subject Matter

Claims 1-11 and 18-26 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the prior art of record, either singularly or in combination, does not disclose or suggest the combination of limitations including a chip mount pad, secured to said first surface, coplanar with said second surface. Note that although Figure 1 of US Pat. 5,583,377 discloses a similar structure, it is considered that the chip mount pad 22 is not coplanar with the second surface of the substrate 12 because the pad 22 extends below the bottom (second) surface of the substrate 12. This interpretation is consistent with Applicant's disclosure (specifically Figure 1A and the description thereof), which shows that when the bottom surface of the chip mount pad 105b is even with the bottom surface 101b of the tape substrate, the chip mount pad is "coplanar" with the second surface of the tape. Figure 7 of US PG Pub 2002/0079572 also discloses a similar structure, but the chip mount pad 112 not considered to be coplanar with the second surface since it extends below the bottom (second) surface of the substrate 104. This interpretation of the claim language and how it relates to the cited references applies to all allowed claims.

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Regarding claim 2, the prior art of record, either singularly or in combination, does not disclose or suggest the combination of limitations including a chip mount pad in each of said second openings, attached to said first surface and shaped to be coplanar with said second surface.

Regarding claim 7, the prior art of record, either singularly or in combination, does not disclose or suggest the combination of limitations including portions of said copper foil in said second openings mechanically shaped into a position coplanar with said second surface, for use as chip mount pads.

Regarding claim 8, the prior art of record, either singularly or in combination, does not disclose or suggest the combination of limitations including a chip mount pad covering each of said second openings, attached to said first surface and shaped to be coplanar with said second surface.

Regarding claim 18, the prior art of record, either singularly or in combination, does not disclose or suggest the combination of limitations including a chip mount pad comprising a sheet of metal, a portion of said sheet of metal on said first surface of said substrate and a portion of said sheet metal covering said opening such that said portion of said sheet metal covering said opening is coplanar with said second surface of said substrate.

Regarding claims 22 and 25, the prior art of record, either singularly or in combination, does not disclose or suggest the combination of limitations including a chip mount pad of metal foil attached to said first surface of said substrate and downset into and covering said opening such that a bottom surface of said chip mount pad is coplanar with said second surface of said substrate.

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Regarding claim 25, the prior art of record, either singularly or in combination, does not disclose or suggest the combination of limitations including

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 5,583,377 – Figure 1 discloses a chip mount pad extending into a hole in a substrate.

US Patent Application Publication 2002/0079572 – Figure 7 discloses a chip mount pad extending into a hole in a substrate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Landau whose telephone number is (571) 272-1731.

The examiner can normally be reached from 8:30 AM - 5:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Parker can be reached on (571) 272-2298. The fax phone numbers for the organization where this application

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or proceeding is assigned are (571) 273-8300 for regular communications and (571) 273-8300 for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should any questions arise regarding access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Matthew C. Landau

February 8, 2006



KENNETH PARKER
SUPERVISORY PATENT EXAMINER